

## ABSTRACT OF THE INVENTION

Compositions and methods are provided for identifying conformational changes in polypeptides related to the activity or biological state of the polypeptide.

- 5 Semisynthetic polypeptides are prepared comprising at least two proximity-sensor peptides, the resultant composition capable of detectably indicating the activity of biological state of the polypeptide. Such compositions may be used to identify modulators of the polypeptides as well as modulators of molecules which interact with the polypeptide, such as protein kinases which act on protein kinase targets.